



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/576,249	04/18/2006	Masahiko Kubota	03500.102481	8843

5514 7590 05/07/2009  
FITZPATRICK CELLA HARPER & SCINTO  
30 ROCKEFELLER PLAZA  
NEW YORK, NY 10112

EXAMINER
----------

MCPHERSON, JOHN A

ART UNIT	PAPER NUMBER
----------	--------------

1795

MAIL DATE	DELIVERY MODE
-----------	---------------

05/07/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

**Application No.**

10/576,249

**Applicant(s)**

KUBOTA ET AL.

**Examiner**

John A. McPherson

**Art Unit**

1795

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 03 March 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 9-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/CDC)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_
- Paper No(s)/Mail Date \_\_\_\_\_

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 2/6/09 has been entered.

### ***Response to Amendment***

2. The Amendment filed 2/6/09, entered with the Request for Continued Examination filed 3/3/09, successfully overcomes the rejections set forth in paragraphs 3 and 5 of the Office Action mailed 11/6/08. Accordingly, these rejections are withdrawn.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-6, 9, 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP 1 380 423 [cited in the Information Disclosure Statement filed

4/18/06] (EP '423) in view of JP 2001-179990 [cited in the Information Disclosure Statement filed 4/18/06] (JP '990) for the reasons of record as set forth in paragraph 1 of the Office Action mailed 2/22/08, and as further discussed below.

4. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over EP 1 380 423 [cited in the Information Disclosure Statement filed 4/18/06] (EP '423) in view of JP 2001-179990 [cited in the Information Disclosure Statement filed 4/18/06] (JP '990) as applied to claim 1-6, 9, 12 and 13 above, and further in view of either one of EP 1 013 648 (EP '648) or the abstract of SE 200001340 (the abstract of SE '430) for the reasons of record as set forth in paragraph 4 of the Office Action mailed 11/6/08, and as further discussed below.

5. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over EP 1 380 423 [cited in the Information Disclosure Statement filed 4/18/06] (EP '423) in view of JP 2001-179990 [cited in the Information Disclosure Statement filed 4/18/06] (JP '990) as applied to claim 1-6, 9, 12 and 13 above, and further in view of EP 0 738 603 (EP '603).

The disclosure of EP '423 in view of JP '990 is discussed in paragraph 1 of the Office Action mailed 2/22/08. However, neither EP '423 nor JP '990 disclose applying the coating layer using a liquid mixture of methyl isobutyl ketone and xylene as a solvent, and developing the photolithographically imaged coating layer using a liquid mixture of methyl isobutyl ketone and xylene as a liquid developer.

EP '603 discloses a method of making a liquid jet recording head comprising the steps of forming an ink flow path pattern on a silicon wafer provided with electrothermal transducer elements, forming a coating resin layer by applying a solution of a cationically polymerizable composition in a mixed solvent of methyl isobutyl ketone and xylene, conducting light exposure utilizing a mask, and developing the imaged coating resin layer to form discharge openings by a mixed solvent of methyl isobutyl ketone and xylene. See page 7, lines 24-38.

It would have been obvious to one skilled in the requisite art to utilize a mixed solvent of methyl isobutyl ketone and xylene to apply the coating resin layer and to develop the coating resin layer, as taught by EP '603, in the process of EP '423 in view of JP '990 because it is taught that such a mixed solvent is useful for both applying and developing a cationically photopolymerizable composition to form a coating resin layer having discharge openings with high adhesiveness to a base plate and high mechanical strength.

***Allowable Subject Matter***

6. Claims 7 and 8 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Response to Arguments***

7. Applicant's arguments filed 2/6/09 have been fully considered but they are not persuasive.

With respect to the 35 USC 103 rejection over EP '423 in view of JP '990, Applicant argues that the present invention is different in that the copolymer of methacrylic anhydride and methacrylate ester is heated at a temperature of 120C to 150C, while in EP '423 the copolymer of methacrylic anhydride and methacrylate ester is heated at a preferred temperature of 160°C to 200°C. However, EP '423 discloses that baking is preferably executed at a temperature of 120 to 220°C, more preferably at 160 to 200°C. See paragraph [0038]. Therefore, the disclosed range of EP '423 includes the presently claimed range.

Applicant's arguments and attachments concerning the significance of the upper limit of 150°C and the lower limit of 120°C have been considered, but are not found to overcome the rejection of record. JP '990 discloses that the presence of a basic substance in the nozzle forming member composition prevents the formation of scum, so the results presented are not unexpected. Furthermore, it is the position of the Examiner that it would have been obvious to one skilled in the requisite art to select an optimum temperature range from within the disclosed temperature range of EP '423 because it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges of a result effective variable involves only routine skill in the art. *In re Aller*, 105USPQ 233 and *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

With respect to the 35 USC 102/103 rejection over JP '990, the Examiner notes that although the ink jet recording head of JP '990 is manufactured by a different method than the liquid discharge head of the presently claimed invention, specifically the steps of forming and removing a solid layer to form the channel (i.e. flow path) of JP '990 do not utilize a copolymer of methacrylic anhydride and methacrylate ester heated to a temperature of 120°C to 150°C, the product of the prior art appears to be substantially identical to the product of the present invention because both ink jet heads comprise a nozzle forming member having the same composition, whereby the ink passages are free of development residue (i.e. scum).

Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend upon its method of production. If the product in the product-by-process claim is the same as of obvious from a product of the prior art, the claim is unpatentable even though the prior art product was made by a different process. See MPEP 2113.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John A. McPherson whose telephone number is (571) 272-1386. The examiner can normally be reached on Monday through Friday, 8:00 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Huff can be reached on (571) 272-1385. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/John A. McPherson/  
Primary Examiner, Art Unit 1795

JAM  
5/6/09